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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,696	10/27/2000	Christopher J. Curtin	CT-A131 US	6128
7590 11/30/2004				
Wagner Murabito & Hao LLP Two North Market St., Third Floor San Jose, CA 95113			EXAMINER QUARTERMAN, KEVIN J	
			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/698,696	<b>Applicant(s)</b> CURTIN ET AL.	
	<b>Examiner</b> Kevin Quarterman	<b>Art Unit</b> 2879	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8,10-69,71-74,76-126 and 266-364 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8,10-69,71-74,76,77,84-126 and 266-364 is/are allowed.
- 6) ☒ Claim(s) 78-83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed 20 February 2004 has been entered and overcomes the objections to the claims.

### ***Drawings***

2. The replacement drawings were received on 13 July 2004. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 78-83 are rejected under 35 U.S.C. 102(b) as being anticipated by Curtin (US 5725787).
5. Regarding independent claim 78, Figure 2 of Curtin shows a structure comprising a plate (303); an electron-emissive element (309) overlying the plate; and a getter region (314) overlying the plate.
6. Regarding claim 79, Curtin discloses that the getter region receives a focus potential (col. 8, ln. 27-33).
7. Regarding claim 80, Figure 2 of Curtin shows a control electrode (310) for selectively extracting electrons emitted by the electron-emissive element, an opening

extending through the control electrode generally laterally where the electron-emissive element overlies the plate.

8. Regarding claim 81, Curtin discloses that the getter region comprises electrically non-insulating material substantially electrically decoupled from the control electrode (col. 5, ln. 56-63).

9. Regarding claim 82, Figure 2 of Curtin shows an electrically insulating layer (312) overlying at least part of the control electrode, the getter region overlying at least part of the insulating layer and being of greater thickness than the insulating layer.

10. Regarding claim 83, Figure 2 of Curtin shows an opening that extends through the getter region generally laterally where the electron-emissive element overlies the plate.

#### ***Allowable Subject Matter***

11. Claims 1-8, 10-69, 71-74, 76-77, 84-126, 266-267, and 271-364 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter: In the response filed 20 February 2004, applicant has amended some of the independent claims to better define the invention and has also provided several arguments explaining the differences between the claimed invention and the applied prior art and how the applied prior art does not teach the claimed invention. Applicant's arguments regarding the above allowed claims are persuasive.

13. Thus, regarding independent claim 1, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a getter region overlying at least part of a light-blocking region and extending no more than

partially laterally across a light-emissive region, and a perforated electrically non-insulating layer overlying at least part of the getter region or/and at least part of the light-emissive region. Due to their dependency upon independent claim 1, claims 2-8 and 10-30 are also allowable.

14. Regarding independent claim 31, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, an electrically non-insulating layer overlying at least part of a light-blocking region, and a getter region overlying at least part of the non-insulating layer above at least part of the light-blocking region, an opening extending largely through the getter region generally laterally where the light-emissive region overlies a plate. Due to their dependency upon independent claim 31, claims 32-40 and 266 are also allowable.

15. Regarding independent claim 41, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a support region overlying a plate and a getter region overlying at least part of the support region, a composite opening extending through the getter and support regions generally laterally where the electron-emissive element overlies the plate, the composite opening comprising an opening through the getter region and an opening through the support region. Due to their dependency upon independent claim 41, claims 42-60 are also allowable.

16. Regarding independent claim 61, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a control electrode overlying a plate and having an opening through which the electron-emissive

element is exposed, and a getter region overlying at least part of the control electrode and contacting, or connected by directly underlying electrically insulating material to, the control electrode. Due to their dependency upon independent claim 61, claims 62-69, 71-74, 76-77, and 267 are also allowable.

17. Regarding independent claim 84, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a group of laterally separated control electrodes overlying a plate, electron-emissive elements being exposed through respective openings in the control electrodes, and a getter region overlying the plate at least partially between a consecutive pair of the control electrodes. Due to their dependency upon independent claim 84, claims 85-98 and 271-273 are also allowable.

18. Regarding independent claim 99, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a group of laterally separated control electrodes overlying a plate; a raised section overlying the plate and extending over at least part of each control electrode; and a getter region overlying the plate and exposed through or/and situated in a primary opening in the raised section. Due to their dependency upon independent claim 99, claims 100-113 and 274-280 are also allowable.

19. Regarding independent claim 114, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a group of electron-emissive elements overlying a plate and situated mostly in respective laterally separated openings in a dielectric layer and a getter region overlying at least part of the

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dielectric layer and contacting, or connected by directly underlying electrically non-insulating material to, the dielectric layer, at least part of the getter region situated above a location between a pair of the openings in the dielectric layer. Due to their dependency upon independent claim 114, claims 115-126 and 281-288 are also allowable.

20. Regarding independent claim 289, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a multiplicity of openings extending through a light-blocking region; a like multiplicity of laterally separated light-emissive regions overlying a plate; a getter region overlying at least part of the light-blocking region and extending no more than partially laterally across each light-emissive region; and a perforated electrically non-insulating layer overlying at least part of the getter region or/and at least part of each light-emissive region. Due to their dependency upon independent claim 289, claims 290-309 are also allowable.

21. Regarding independent claim 310, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a multiplicity of openings extending largely through a light-blocking region; a like multiplicity of laterally separated light-emissive regions overlying a plate, each light-emissive region situated at least partially in a different corresponding one of the openings in the light-blocking region; an electrically non-insulating layer overlying at least part of the light-blocking region; and a getter region overlying at least part of the non-insulating layer above the light-blocking region, a like multiplicity of openings

extending largely through the getter region respectively generally laterally where the light-emissive regions overlie the plate. Due to their dependency upon independent claim 310, claims 311-318 are also allowable.

22. Regarding independent claim 319, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a multiplicity of laterally separated electron-emissive regions overlying a plate; a support region overlying the plate; and a getter region overlying at least part of the support region, a multiplicity of composite openings extending through the getter and support regions generally laterally where the electron-emissive regions overlie the plate, each composite opening comprising an opening through the getter region and an opening through the support region. Due to their dependency upon independent claim 319, claims 320-336 are also allowable.

23. Regarding independent claim 337, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a multiplicity of laterally separated electron-emissive regions overlying a plate; a group of laterally separated control electrodes, each control electrode overlying the plate and having a plurality of openings through which a like plurality of the electron-emissive regions are exposed; and a getter region overlying at least part of each control electrode and contacting, or connected by directly underlying electrically insulating material to, each control electrode. Due to their dependency upon independent claim 337, claims 338-354 are also allowable.



24. Regarding independent claim 355, the prior art of record neither shows or suggests a structure comprising, in addition to other limitations of the claim, a multiplicity of laterally separated electron-emissive regions overlying a plate and a getter region overlying the plate, a like multiplicity of openings extending through the getter region to respectively expose the electron-emissive regions. Due to their dependency upon independent claim 355, claim 356-364 are also allowable.

***Response to Arguments***

25. Applicant's arguments with respect to claims 78-83 have been considered but are not persuasive.

26. In response to applicant's argument regarding independent claim 78 that Curtin does not disclose any electron focusing system, the Examiner notes that apparatus claims must be distinguished from the prior art in terms of structure rather than function (MPEP § 2114). Independent claim 78 cites a getter region "shaped, positioned, and controlled to focus electrons emitted by the electron-emissive element." Since Curtin discloses a getter region having the same composition as the getter region claimed in the instant application, the Examiner holds that the getter region of Curtin inherently possesses the capability to perform the function of focusing electrons emitted by the electron-emissive element.

***Conclusion***

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tsai (US 567296) discloses a high efficiency field emission display. Haven (US 6046539) discloses a sacrificial masking layer and backside exposure in forming openings that receive light-emissive material.

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

29. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**Contact Information**

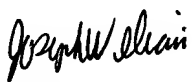
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
28 November 2004

  
**Joseph Williams**  
**Primary Examiner**  
**Art Unit 2879**